

Measuring a Diameter for Transparent PET Plastic

By

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BACHELOR'S DEGREE
in

MECHANICAL ENGINEERING – MECHATRONICS CONCENTRATION
FACULTY OF ENGINEERING AND INFORMATION TECHNOLOGY

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August 2017

Revision after the Thesis Defense on July 26th 2017

STATEMENT BY THE AUTHOR

I hereby declare that this submission is my own work and to the best of my knowledge, it contains no material previously published or written by another person, nor material which to a substantial extent has been accepted for the award of any other degree or diploma at any educational institution, except where due acknowledgement is made in the thesis.

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ABSTRACT

MEASURING A DIAMETER FOR TRANSPARENT PET PLASTIC

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The objective of this thesis is to develop a computer vision to detect a transparent plastic tray shape and measure a diameter of transparent plastic tray. Webcam camera is used to capture and record the transparent object image which is used as the main input image to be processed using Qt Creator and OpenCV library. Many image processing technique is used for this thesis such as, Background Subtraction, Blurring, Thresholding, Hough Transform, Canny, Find Contour, and Segmentation.

To achieve the objectives for detect and measure diameter of transparent plastic, two methods are used, find contour and segmentation. The result of find contour method has proved to be able to detect and measure the transparent tray object. The segmentation method also work, however the result is not satisfy because it cannot segment transparent plastic from it's background due to object transparency.

Keywords: Computer Vision, Transparent Plastic Tray, Qt Creator, OpenCV, Image Processing, findContour, and Segmentation.



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DEDICATION

I dedicate this works for my family, lecturers, and all of my friends.



ACKNOWLEDGEMENTS

I would like to thank my parents, who always encouraged me and support the financial needs for this thesis.

I would like to express my gratitude to Dr. Rusman Rusyadi, B.Eng., M.Sc. as advisor who was particularly helpful in guiding me throughout the entire thesis work. I also want to thank Mr. Leonard Priyatna Rusli, M.Sc., Ph.D., as my co-advisor, for assisting me during my thesis work.

Last but not least, I would like to thank all of my colleagues in Mechatronic batch 2013, who have been together for four years, experienced various periods of joy and sorrow together.



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